SVKM's
D. J. Sanghvi College of Engineering

Program: B.Tech in Information Technology **Academic Year: 2022** **Duration: 3 hours**
Date: 06.01.2023
Time: 10:30 am to 01:30 pm
Subject: Business Analytics (Semester VII) **Marks: 75**

Question No.		Max. Marks
Q1 (a)	Describe the essential components of a business intelligence system.	[08]
Q1 (b)	Describe the cycle of a business intelligence analysis with the help of an example. **OR** Describe all the essential phases in the development of a business intelligence system.	[07] [07]
Q2 (a)	Illustrate the seven phases of visualizations.	[07]
Q2 (b)	Giving examples compare and contrast Diagnostic Analytics, Descriptive Analytics, Predictive Analytics and Prescriptive Analytics **OR** What Data Transformation and Data Discretization. Elaborate giving examples.	[08] [08]
Q3 (a)	What is noise? Explain data smoothing methods as noise removal techniques to divide given data into bins of size 4 by bin partition (equal frequency), by bin means, by bin medians and by bin boundaries. Consider the data: 11, 13, 13, 15, 15, 16, 19, 20, 20, 20, 21, 21, 22, 23, 24, 30, 40, 45, 45, 71, 72, 73, 75	[10]
Q3 (b)	Suppose that the data for analysis includes the attribute age. The age values for the data tuples are (in increasing order):13, 15, 16, 16, 16, 16, 19, 20, 23, 29, 35, 41, 44, 53, 62, 69, 69, 72. Use min-max normalization to transform the value 45 for age onto the range [0, 1] **OR** Minimum salary is Rs.20,000 and Maximum salary is Rs.1,70,000. Map the salary Rs. 1,00,000 in new Range of (60,000,2,60,000) using min-max normalization method. If Mean salary is 54,000 and standard deviation is 16,000 then find z score value of 73,600 salary.	[05] [05]
Q4 (a)	State the Chebyshev's Theorem and apply the same to solve the following problem. The average check at a local restaurant is $36.42 with a standard deviation of $8.15. What is the minimum percentage of checks between $15.23 and $57.61?	[05]
Q4 (b)	i.Describe the Significance of DATA step and PROC step in SAS programming. Describe following SAS procedures and write a valid Syntax of SAS program using each procedure. i.PROC IMPORT ii.PROC MEANS iii.PROC FREQ iv.PROC UNIVARIATE	[10]

	OR ii.Describe the purpose of following panes available in SAS Visual Analytics Report Builder. i.Suggest Pane ii.Roles Pane iii.Action Pane iv.Rules Pane v.Data Pane	[10]
Q5 (a)	Describe SAS Visual Analytics architecture and describe SAS Visual Analytics Methodology in detail.	[08]
Q5 (b)	i.Write a SAS program to show how Sorting Data and Removing Duplicates can be done in SAS programming. **OR** ii.Write a SAS program to Join Tables Using PROC SQL on sample data.	[07] [07]